**CS604P Assignment #2 Spring 2023**

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**Solution:**

**Source Code in C:**

/\* Abdul Rehman

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#include<stdio.h>

#define PAGE\_SIZE 1024

#define PHYSICAL\_MEMORY\_SIZE 4096

void simulate\_memory\_access(int page\_number){

static int physical\_memory[PHYSICAL\_MEMORY\_SIZE / PAGE\_SIZE] = {0};

static int page\_table[PHYSICAL\_MEMORY\_SIZE / PAGE\_SIZE] = {0};

if (page\_table[page\_number] == 0){

printf("Page %d is not in physical memory. Page fault: \nPage %d loaded into physical memory. \n", page\_number, page\_number);

page\_table[page\_number] = 1;

}else{

printf("Page %d is already in physical memory. \n", page\_number);

}

}

int main(){

simulate\_memory\_access(0);

simulate\_memory\_access(1);

simulate\_memory\_access(2);

simulate\_memory\_access(0);

simulate\_memory\_access(3);

simulate\_memory\_access(1);

simulate\_memory\_access(2);

simulate\_memory\_access(4);

simulate\_memory\_access(8);

simulate\_memory\_access(3);

simulate\_memory\_access(2);

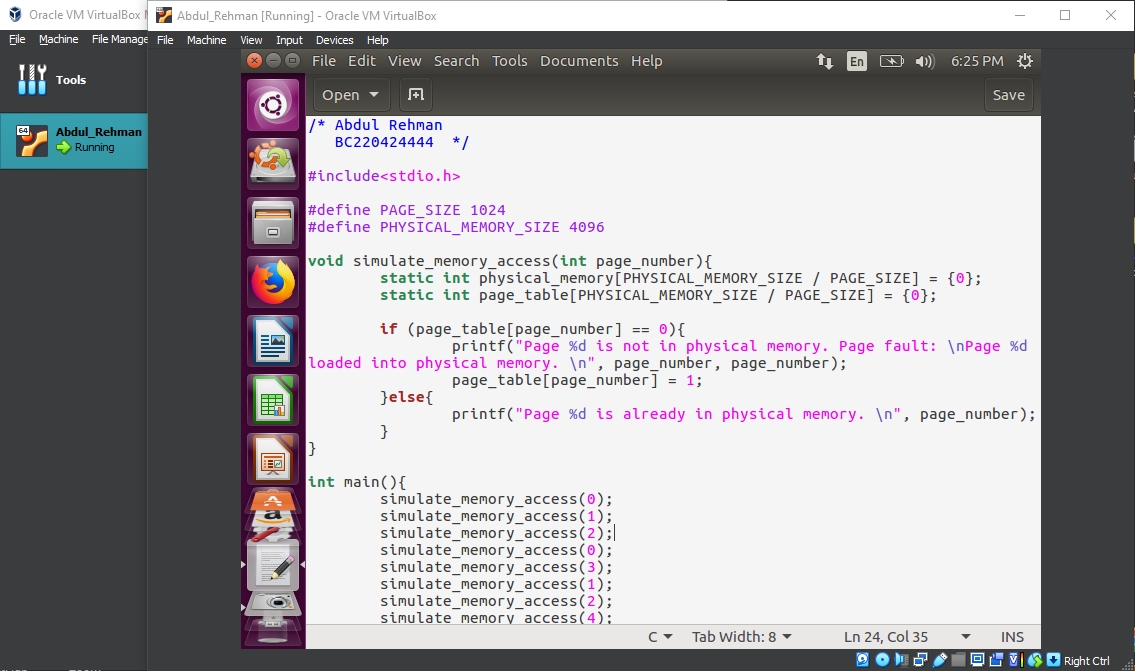
simulate\_memory\_access(1);

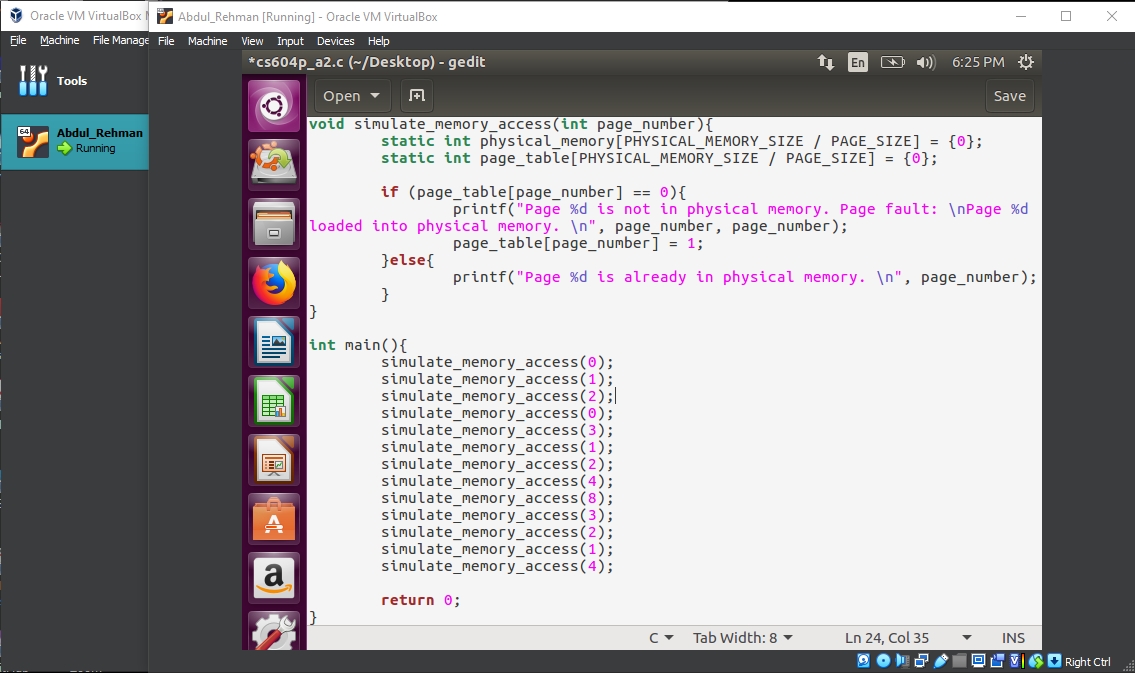
simulate\_memory\_access(4);

return 0;

}

**Code File Screenshots:**





**Terminal Output Screenshot:**

